OPERATIONAL CHALLENGES IN THE IMPLEMENTATION OF E-BANKING AT THE NATIONAL BANK OF KENYA

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DECLARATION

This research project is my original work and has not been presented for the award of a degree in any other university**.**

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Signature …… Date…….....

This research project has been submitted for examination with my approval

Supervisor: Onserio Nyamwange

Signature …… Date ……

DEDICATION

I dedicate this project to my family members.

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I am most grateful to Almighty God who through His infinite mercy and love guided me throughout the duration of the MBA programme. I am thankful for the knowledge, guidance and support that I received from my Supervisor Onserio Nyamwange, Moderator Peterson O.Magutu and the Chairman of Department Dr. Njihia to make this project undertaking successful. I am very much thankful to my parents, brothers/sisters and friends for their continuous support.

ABSTRACT

The banking industry locally and internationally has continued to embrace adoption and implementation of E-banking products and services given the discussed benefits that arise, such as lowering operations cost quick and convenient delivery of services to customers and value addition to the banks services. This study investigated on operational changes in the implementation of e-banking at the National Bank of Kenya which included, commitment by top management, qualification of ICT personnel to handle e-banking projects, operational and reputational risks involved and ICT policies that favour proper implementation of e-banking products and services. The research is descriptive and was a case study for National Bank of Kenya. The study used primary data collected through a self administered questionnaire with closed and open ended structured questions. The data from the completed questionnaires was coded and entered into the computer using the Statistical Packages for Social Sciences for analysis. The findings of the study were that indeed the top management commitment, qualification of ICT personnel, the operational risks and ICT Policy that support e-banking implementation affect the implementation of e-banking at the bank. The researcher concluded that the management of the bank needs to ensure that committements by the top decision making management staff in both word and conduct, and have the right personnel to work in the IT /project departments, ensure proper operational procedures are followed and participate in ICT policy making in the country for the financial industry.

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LIST OF ABRREVIATIONS

ATM	Automated Teller Machine
E- Banking	Electronic Banking
ICT	Information and Communication Technology
IT	Information Technology
IS	Information System
ITU	International Telecommunication Union
NBK	National Bank of Kenya
SME	Small & Medium Enterprises
MITIP	Model of the IT Implementation Process
ISSM	Information Systems Success Model
TRA	Theory of Reasoned Action
TPB	Theory of Planned Behaviour
TAM	Technology Acceptance Model
IDT	Innovation Diffusion Theory
RTGS	Real Time Gross Settlement
EFTs	Electronic Funds Transfer

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CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

In today's competitive world, the great organizations do not have the ability to compete with their global competitors in a flat world. Those who cannot adjust themselves according to requirements of flat world will be eliminated in global business arena. Nowadays, the service industry in the world is changing, thus new technology has changed the method of customer services provision in many service organizations. Nowadays, geographical distance has lost its meaning and service availability, convenience, and speed of service distribution will lead competitive advantage for organizations, such as banks. Businesses, in order to compete in the complex environment are forced to deliver the newest and most attractive services that their customers are demanding (White and Harrison, 2004). In this regard, many banks in the world have to offer electronic services.

With globalization and changes in technology in the financial market, the world has become closely integrated (Williamson, 2006). Customers can access their accounts anywhere and banks customers' base is also spread across the world. Deregulation and liberalization have opened up new opportunities for banks but at the same time the pressure of competition has led to narrowing spreads, shrinking margins, consolidation and restructuring. If the quality of customer service is poor, the banks would surely not subsist in long run (Jasimuddin, 2004). The banks which are capable of providing quality service to their customers will acquire competitive advantage and to sustaining this advantage it requires unrelenting efforts by the banks to upgrade the services continuously in the light of modern information technology from traditional banking system into electronic banking. While electronic banking does offer exciting possibilities for payment mechanisms, there are many open questions that have still not been satisfactorily addressed and it has raised many issues before the banking regulators and government agencies.

The advent of Information and Communications Technology has led to the proliferation of electronic-based banking products as an alternative channel for routing banking services to customers. Electronic banking (e-banking) has changed the face of commercial banking in recent times by bridging geographical, industrial and regulatory gaps as well as creating innovative products and services and more market opportunities for both banks and customers (Khan and Karim, 2010). Today, the world is becoming a global village, given the growing complexity of business portfolios and expansion of business groups, and the increase in decentralization in response to these changes. Thus, electronic banking services have been gaining ground around the globe. This offers banking industry a new leading edge of opportunities and challenges in the global banking market. Hence, the success of electronic banking services depends on the rate at which the new technology is adopted by the customers (Shaukat and Zafarullah, 2010).
The operational challenges are those that directly or indirectly affect the transformation of innovative ideas of products and services that are satisfactorily delivered to customers, within an organization.

1.1.1 Electronic Banking

Electronic Banking is defined as "the use of technology to communicate instructions and receive information from a financial institution where an account is held. This service includes the system that enables financial institution customers, individuals or business to access accounts, transact business, or obtain information on financial products and services through a public or private network" (Prakash and Malik, 2008). E-banking is the use of electronic means to deliver banking services, mainly through the Internet. The common types of electronic banking mostly mentioned in the literature include SMS banking, mobile (m-banking), Automated Teller Machines (ATMs), telephone banking, personal computer banking, and electronic cheque clearing systems (Abor, 2004). According to Shah and Siddiqui (2006), the provision of banking services via the electronic (e-banking) is increasing today and new channels may evolve very soon. Electronic banking services, has lower operating costs, improved customer service delivery, retain customer, reduce branch traffics, and downsize the number of branch staff (Parisa, 2006).

E- Banking has changed the way banking is conducted in areas such as, distribution, production, payment and trading (Llevwellyn, 2007). It has also created new customer values, in content, infrastructure, and context (Methlie, 2008). Although the number of electronic users has increased significantly over the past decade, only a small number of those users have made actual purchases/transactions over the internet. According to Koskosas and Paul (2004), the emergence of electronic banking has made banks re-think their information technology strategies in order to remain competitive as electronic banking services are believed to be crucial for the banks' long-term survival in the world of electronic commerce. Today, customers demand new levels of convenience and flexibility on top of powerful and easy to use financial management tools, products and services, something that traditional retail banking could not offer. Thus, electronic banking allows banks to provide these services by exploiting an extensive public network infrastructure for the interest of the customer because customer is the King.

E-banking reaps benefits for both banks and its customers. From the banks' perspective, e-banking has enabled banks to lower operational costs through the reduction of physical facilities and staffing resources required, reduced waiting times in branches resulting in potential increase in sales performance and a larger global reach, increase banks market share and facilitation of business transaction. More linkage is therefore drawn on the importance of electronic banking to improve the business environment of any economy. Awareness, information, customer protection, response time, reliability, security, technology readiness all are considered to be important elements for electronic banking (Sarel and Mamorstein, 2003). From the customers' perspective, e-banking allows customers to perform a wide range of banking transactions electronically via the bank's website anytime and anywhere at their convenient time. (Grabner-Kraeuter and Faullant, 2008). In addition, customers no longer are confined to the opening hours of banks, travel and waiting times are no longer necessary, and access of information regarding banking services are now easily available, as customers can even check the foreign exchange rates and make a decision depending on the cheaper rate that they can afford to exchange the foreign currencies (Hamlet, 2000). However the success of e-banking isn't without its

problems. Firstly the adoption of e-banking has not kept pace with that of electronic usage (White and Nteli, 2004). This gap is attributed to bank customers' perception on e-banking services and products and banks operations factors.

Researchers have indicated that when banks increase their service quality level to customers to create effective satisfaction among them increases their profitability (Zaribaf and Mahdi, 2010). There are .several operational challenges facing the implementation of e-banking by banks and others due to customer's perception, which are; failure of top management commitments, operational and reputational risks, low skilled ICT personnel, unclear and lack of good ICT policy in the country that favour conducive environment for banks under study, perceived usefulness and ease of use of e-banking products by customers, the level of I.T literacy of the users, cost of infrastructure among others. These factors can be a challenge if not well addressed by the parties concerned and in most cases the operations department is most affected because implementation process takes place within the department.

1.1.2 National Bank of Kenya

National Bank of Kenya (NBK) is a commercial bank in Kenya and a large financial service provider serving individuals, small to medium companies, businesses (SMEs) and large corporations. The bank was established in 1968 as a 100% government-owned financial institution. In 1994, the Kenyan Government reduced its shareholding to 68% by selling 32% shareholding to the public. The government further divested from NBK over the years, until its present shareholding of 22.5%, as of October 2010. NBK operates one subsidiary Company, Nat Bank Trustee and Investment Services Limited incorporated in Kenya on 21st July 1995 with a Share Capital of Ksh.10 Million (www.nationalbank.co.ke).

NBK provides banking, financial, and related services to the retail and corporate business segments in Kenya. Its deposit and other accounts include current, national saver, student, Pinnacle, Vision, foreign currency, Taifa, Al-mumin, wages, Uchuuzi SME transactional current, RTGS, EFTs and Super Chama accounts, as well as call deposits and fixed

deposits and Point of Sale services through the use of cards. The company's lending products portfolio comprises of loans, overdrafts, and personal loans to salaried customers, asset finance, mortgages, NBK study loans, and salary advances. It operates 41 outlets and in its business of provision of these financial services NBK has been facing challenges in proper implementation of e-banking products and services despite being a pioneer in adoption of the same.

Business via the internet or electronic commerce is providing a competitive advantage for banks by lowering operational cost and providing best satisfaction of customer needs through provision of quality services. A strong banking industry is important in every country and can have a significant effect in supporting economic development through efficient financial services. In Kenya the role of the banking industry needs to change to keep up with the globalization movement. This change will include shifting from traditional service distribution channel banking to electronic distribution channel banking. Given the almost complete adoption of e-banking in developed countries, the reason for the lack of such adoption in developing countries like Kenya is an important research that needs to be addressed. The E-banking facilities which include Automated Teller Machine (ATM), SMS banking, mobile (m-banking) and Internet banking are among devices making banking very easy and convenient comparable to the traditional way. However, as the banks embrace these new opportunities they have to put in place strategies to handle challenges that arise. The National Bank has over the years continued to introduce a wide range of new products, prompted by increased competition, embracing information communication technology and enhanced customer needs.

1.2 Research Problem

Handling competition along with world-wide transformations in the field of business and banking, due to technology and information technology, has transformed many of the traditional banking methods and has dominated competitive atmosphere in order to use new technologies. The benefits of e-banking to the institutional banks includes; lower transaction costs as e-banking requires less paperwork, less staffs and physical branches. E-banking may lead to higher level of customers' satisfaction and retention.

Organizational ability to utilize web technology capabilities is one barrier to electronic commerce, and may include management attitudes, resource constraints, and knowledge issues on new technologies. A few studies have cited negative attitudes among some managers as a major hindrance (Farhoomand *et al.*, 2010). Negative attitudes cause resistance to change and lack of management commitment, reducing the company's resource allocation and motivation to use the technology. Implementing Web technology as a business channel requires some additional investment and resources, such as hardware and software. Shortages of information technology infrastructure remain a critical barrier in some cases to the continuing growth of online commerce (Gilbert *et al.*, 2009).

A number of studies have been undertaken locally in the area of electronic banking. Munyoki & Ngigi (2010) undertook a study on challenges of e-banking adoption by commercial banks in Kenya and found out that security was found to be the most critical factor influencing e-banking adoption. Korir (2012) on his part researched on factors influencing mobile banking in Kenya commercial bank at Garissa and found out that there were losses due to fraudulent access of customers' accounts due to hacking. He suggested that in order to protect customers' accounts, there is need to employ disciplined and well remunerated ICT people in the bank and at the level of mobile provider. Cheruiyot (2010) researched on the factors that affect the adoption of new product in Kenyan commercial banks and established that cost of new products hinders consumer adoption of the new products, lack of information on new products hinders customers' adoption of the new products at commercial banks and ineffective communications act as a great barrier to adoption of new commercial banks products and services.

Worldwide, banks are enjoying the benefits of e-banking innovation, but then again they are also faced with challenges and in Kenya, National Bank is facing the perceived challenges in it operations execution of e-banking products and services despite being among the early innovators and adopters of e-banking concept in Kenya. This study thus sought to establish the operational challenges facing National Bank of Kenya in implementation of its e- banking services. The bank has encountered challenges as its

customers are not using the products which have been offered as expected. This makes the bank to lag behind in the competitive market. Despite its importance in the economy, e-banking has not been effectively embraced by the banks' customers. Most studies done on e- banking revolve around the benefits and security of e- banking rather than operational challenges faced in the implementation of e-banking and thus the study was conducted to investigate how National Bank of Kenya realize their operational objectives through the adoption of E-banking and the operational challenges faced in the implementation process.

1.3 Research Objective

To investigate the operational challenges in the implementation of e-banking products and services at the National bank of Kenya.

1.4 Value of the Study

The study forms a basis of government regulation of e- banking in Kenya and explores the e- banking platform as a source for government revenue.

The findings of the study adds value to the management of the National Bank of Kenya, as acts as an insight into the critical factors that must be addressed in order to improve the overall adoption and acceptance of electronic banking services in the bank operations function. The study findings benefits management and staff of bank who gains insight into how their institutions can effectively roll out the products they innovate and ensure that customers experience ease and comfort as they use the banks products and services, and even as a way that customers should find it easy to operate within one bank as they enjoy smooth services especial on the use of E-banking (Mobile banking and internet banking) services at the comfort of their zones. This study offers an understanding on the factors hindering effective implementation of e-banking products and services that offers competitive advantage to the firms.

The electronic and electronic based technologies have revolutionized the way banks operate and interact with their environment. The findings of this study are useful to

policy makers in the banking sector in the development of a national policy framework for electronic banking implementation in Kenya to facilitate economic growth. It also suggests guidelines to use in formulation of policies, standards and procedures for e-banking activities. The findings and recommendation assists CBK and the individual banks in Kenya come up with necessary regulations and guidelines that would foster e-banking business in the country.

This study also assist all stakeholders in the banking industry identify and formulate strategies that will promote e-banking. This study also sought to address the lack of studies on e-banking implementation in developing countries such as Kenya and also help researchers in studies related to e-banking. It is hoped that the findings are of value to the academicians, who may find useful research gaps that may stimulate interest in further research in future. Recommendations were made on possible areas of future studies.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature that is relevant to the study. The purpose of reviewing literature is to explore research works and other secondary data relevant to the study. The study explores on the operational challenges in the implementation of e-banking products and services.

2.2 The Concept of E-Banking

Vilattes (2007) defines E-banking as a distance banking that not only handles the flow of information between customers' "living spaces" (homes, offices) and the physical facilities of the bank, but also deals with solicitation, sales, distribution and access to services, all without requiring the customer and the financial institution representative to be in the same physical place at the same time. Most electronic business specialists agree that E-banking ensures 24-hours-a-day, seven-days-a-week accessibility, through any type of advanced information system (Automated Teller Machines, Personal Computers, Internet and mobile phones) and for all types of financial transactions (Daniel, 2009). It enables customers to perform banking transactions without visiting a brick and mortar banking institution. When Capitalizing on e- Commerce's ability to offer productivity gains transaction cost reductions, improved customer services and flexibility in fulfilling customers' changing needs and lifestyles, e-banking has enabled banking institutions to compete more effectively in this global environment, extending their products and

Services beyond the restriction of time and space, meaning that customers can comfortably make bank transactions at their own convenient time. The adoption of electronic banking is often credited with helping fuel strong growth in the many economies (Coombs *et al.*, 2007). It seems apparent then that, electronic banking affects not just banking and financial services, but also the direction of an economy and its capacity for continued growth and development.

Electronic banking service has provided numerous benefits for both banks and customers. The first benefits for the banks offering electronic banking service is better branding and better responsiveness to the market. Those banks that would offer such services would be perceived as leaders in technology implementation. Therefore, they would enjoy a better brand image. The other benefits are possible to measure in monetary terms. The main goal of every company is to maximize profits for its owners and banks are not any exception. According to Rotchana Kitumnuai and Speece (2003) electronic banking offers numerous benefits to both banks, investors and individual bank clients; can check account balances, transfer money, pay bills, collect receivables and ultimately reduce transaction costs and establish greater control over bank accounts. Customers need not visit banks for banking transactions, providing round the clock services (Cheng et al., 2006). Turban et al. (2000) indicated that Internet banking is extremely beneficial to customers because of the savings in costs, time and space it offers, its quick response to complaints, and its delivery of improved services, all of which benefits make for easier banking. Customers can apply for loans and do other banking services online (Smith and Rupp, 2003). There are other numerous advantages to banks offered by online banking such as mass customization to suit the likes of each user, innovation of new products and services, more effective marketing and communication at lower costs. On the other hand there are indirect benefits to the banks which are the intangible benefits such as improved customer's satisfaction through improved services, improved banking experience and fulfillment of their changing needs and lifestyle.

The use of information technology (I.T) gives banks a chance to differentiate itself from other competitors in the market by ensuring that they deliver the most reliable, convenient and easy to use products and services which if well implemented would give the bank rewarding benefits. Given this is a digital era, people want instant services at their comfort zone. Consequently, the effort to achieve a winning strategy by the banks comes with challenges, given that commercial banks in Kenya have not fully gone live on the offer of e-banking services. Customers have complained on matters of security, unreliable systems which go down during the processing time of such e- banking processes and even some complains of double charges and unknown charges made on

their accounts during the transaction time. These are among the challenges which the researcher intents to find out on the side of operation challenges in implementation of e-banking services at NBK.

E-banking plays a major role in the economy by enabling sellers and buyers to create economic value through the exchange of information, goods/services, and payments by avoiding physical contacts (Bakos, 2008). Also, E-banking enables banks to attract mobile customers and this offers tremendous profit potential by providing mobile financial services. As indicated by Wind (2001) many banks are motivated to implement E-banking by forces relating to the maximization of their earnings through increased market scope and improved customer relationship due to product delivery, convenience and service customization. The growth in credit card usage is attributable to E-banking. Now a customer can shop worldwide without any need of carrying paper money with him/her. Banks are available 24 hours a day, seven days a week and they are only a mouse click away.

2.3 Theoretical Framework

In deriving a framework for this study, innovation theories will be considered. Innovation is at the basis of economic development and as such, it is instrumental for developing e-banking services. Innovation can be defined as all the scientific, technological, organizational, financial, and commercial activities necessary to create, implement and market new or improved products or processes. The emergence of new banking technology has created highly competitive market conditions, which have had a critical impact upon consumer behavior. Internet banking providers must, therefore, attempt to better understand their customers and their attitudes towards technology in general in order for them to put in place successful strategies for the implementation of e- banking services. If they succeed, banks will be able to influence and even determine consumer behavior, which will become a major issue in creating competitive advantage in the future for the banks. The interaction between the adoption and marketing of electronic delivery channels by banks is dependent on innovation models.

The below discussed technology innovation theories relates to the adoption of e-banking, since the cycle of e-banking runs through; idea generation, introduction to the market, growth, maturity and decline stages. It is therefore important for the banks to ensure that proper strategies for implementation of e-banking services are put in place for the end products and services to have a positive impact to both the banks and customers.

2.3.1 Model of the IT Implementation Process (MITIP)

The IT Implementation Process as discussed by Cooper and Z mud (1990) took kwon and Zmud's (1978) model of It Implementation Process and developed it further. The model is based on the reorganizational change, innovation, and technological diffusion literature. The purpose of the model is to offer a directing and organizing framework for ICT implementation research of IT projects. Kwon and Zmud's (ibid) stage model comprise s of six stages, namely, initiation, organizational adoption, adaption, acceptance and adoption, routinization and infusion. The Model covers an implementation process from the scanning of organizational needs to a full effective use of the technology in daily practice. The model also identifies five contextual factors which impact on processes and products in each implementation process stage: the characteristics of user community in discussion, the organization, the technology being adopted, the task and the organizational environment.

2.3.2 The Theory of Reasoned Action (TRA)

Fishbein and Ajzen (1975) developed the Theory of Reasoned Action in 1975. They later refined it with empirical evidence to support its validity and reliability (Ajzen & Fishbein, 1980). In summary they postulated that: an individual's behavioural intention is the immediate determinant of behaviour, their attitude and subjective norm are mediated through behavioural intention and their behavioural and normative beliefs are mediated through attitude and subjective norm.

2.3.3 Information Systems Success Model (ISSM)

The last most cited theory was the Information Systems Success Model. Delonne and McLean (1992) reviewed prior research and introduced a comprehensive taxonomy of

factors contributing to the success of information systems. The authors examined the literature on IS success and categorized success measures into six categories: system quality, information quality, use, user satisfaction, individual impact and organizational impact.

2.3.4 The Theory of Planned Behaviour (TPB)

After identifying some problems with the Theory of Reasoned Action, specifically that it was designed to predict and explain behaviour based on the assumption that this was under a person's volitional control, Ajzen (1991) came up with a modification: the Theory of Planned Behaviour. To achieve this Ajzen extended TRA by adding another construct called Perceived Behavioural Control, which refers to an individual's perception of the "presence or absence of requisite resources and opportunities" (Ajzen & Madden, 1986) required to perform the specific behaviour.

2.3.5 The Technology Acceptance Model (TAM)

TAM is a theoretical model that evaluates the effects of things like system characteristics on user acceptance (F. D. Davis, 1986). In a similar fashion to the TRA, TAM assumes that a computer user generally acts quite rationally and uses information in a systematic manner to decide whether to adopt, or not to use this technology in the workplace. Davis identified three major determinants of technology acceptance that relate to cognition and effectiveness and were suggested by previous research studies. He began with the TRA and adapted this as a basis for causal links between perceived usefulness, perceived ease of use, attitude towards using technology and behavioural intention to explain technology adoption.

There is a large body of literature over the last 20 years dealing with TAM. Recent studies include a study of user acceptance of on-line private banking in Finland by Pikkarainen T), Pikkarainen (K), Karjaluoto and Pahnila (2004) who found that perceived usefulness and information on an on-line banking web site were the main factors influencing adoption. In evaluating I.S usage in Malaysian SMEs, Ndubisi and Jantan (2003) found that there was a positive relationship between computing skill and technical

backing and IS usage directly and indirectly via perceived usefulness and ease of use. Schepers and Wetzels (2007) conducted a quantitative meta-analysis of previous research on the technology acceptance model (TAM) in an attempt to make well-grounded statements on the role of subjective norm. Venkatesh et al. (2003) have recently proposed a unified view incorporating aspects of various other models into TAM.

2.3.6 Innovation Diffusion Theory (IDT)

The theory of Diffusion of Innovations as described by Rogers (1995) is well known. Innovation Diffusion Theory (IDT) is a model that explains the process by which innovations in technology are adopted by users. Diffusion is defined as "the process by which an innovation is communicated through certain channels over time among the members of a social system". A decision not to adopt an innovation relates to the rejection of the available new idea. However, in order to explain the rate of adoption of innovations Rogers suggests measurement of the following perceived characteristics of innovations: (1) relative advantage (2) compatibility; (3) complexity; (4) trialability; and (5) observability. Rogers (1995) postulated that the adoption of innovations is influenced by these five characteristics, and that they can explain the rate of technology adoption.

2.4 Operational Challenges in the Implementation of E-Banking

Though e-banking is ultimately used by retail customers, the institutions that implement e-banking strategies have a role to play in ensuring their final success. Notwithstanding the significant benefits of E-banking and its capabilities, it carries risks and challenges are recognized and need to be managed by banking institutions in a prudent and professional manner. These institutional challenges includes the commitment from top management, the ability of the banks to raise the required information technology personnel, the operational and reputational risks as well as the ICT policy prevailing in the country could impede or enhance the adoption and implementation of e-banking products and services. In the subsequent sections, these institutional challenges are discussed.

2.4.1 Top Management Commitment to E-Banking Implementation

For a successful implementation of e-banking the top management must be committed both in word and in execution. Turban *et al.,* (2000) cited that it is important for the management to be involved in the financing and participate in the day to day running of the e-banking operations. Management may commit resources to information systems for various reasons including cost cutting, new revenue potential, improved competitiveness and quality of products and services because of perceived benefits of e-banking. Among the various reasons, cost effectiveness stands out as the most significant factor influencing management adoption and implementation of e-banking services (Sayar and Wolfe, 2007). On the other hand, some organizations are faced with having top managers and employees who are resistance to change and this may cause an organization to lag behind in this competitive world. Harris and Spence (2002), exploring the ethics of business-to-business e-commerce, mentioned that banks need to be actively involved in the development of internet infrastructure and since it is the responsibility of the top management to make such long term and provide for the working capital of e-banking projects, they are expected to be fully committed . They argued that internet technology for instance, must be matched with very strong software and networking systems, customer-value-perception-based strategies, benchmarking and sufficient training for staff. In order to overcome these challenges, banks need to employ additional strategies over and above routine technical solutions to doing business in cyberspace given the availability of portable devices such as mobile phones, pads. Bovey and Hede (2001) suggest that management of banks must employ a balanced approach to e-banking, incorporating technical aspects involved as well as working with the human factor associated with the venture in order to carry it out smoothly.

According to Tolbert and Zuker (2003) innovation of information technology would be more likely if the political environment within an organization has norms favoring the change. Thus, when there is support from top management adopting of e-banking would be easy and smooth. Management support has been identified as crucial in the acquisition of innovation (Orlikowski, 2003). Since top management consists of individuals with power and authority to make strategic decisions; it is easy to develop a clear-cut of e-

banking vision and strategy while at the same time sending signals to different parts of the organization about the importance of e-banking and the need for every employee to get committed on the same. Given the limited nature of organizational resources and the many competing projects, top management support ensures that an e-banking innovation project will get the required resources and capabilities. There is a positive effect of leadership support on innovation adoption; Rai and Patnayakuni (2006) found that top management support had a positive effect on case tools adoption behavior in information system departments. It is important that top management need to get involved in order to gain a good understanding of the issues surrounding e-banking and mobilize organizational stakeholders (Epstein, 2010).

2.4.2 Operational Risk and Reputational Risk

Operational risk of e-banking is the central of system availability and security to the dependability on new technology which provides services. Security threats can be internal or external to the system such as system hacking, viruses and due to this, banking regulators and supervisors must check that banks have the right measures in place to secure data integrity and confidentiality for the institution and customers. These security practices should be tested on a regular basis by technical skilled personnel to analyze network vulnerabilities and recovery preparedness. The integral part of the overall management and supervisors need to include cubing of operational risks in their safety monitoring and evaluations procedures. E -banking increases banks dependence on information technology, thereby increasing the technical complexity of many operational and security issues and furthering a trend towards more partnerships, alliances and outsourcing arrangements with third parties. This development has lead to the creation of new business models involving banks and non blank entities, such as Internet service providers, telecommunication companies and other technology support firms (Sayar and Wolfe, 2007).

E-banking carries legal risks for both the banks and customers. Banks have grown geographically faster in terms of services which they render through e-banking compared to the traditional banking method. In some cases, however, the banks rendering these

services might not be fully acquainted with laws and regulations abiding in that area before offering such services, either with a license or not. When this license is not there, a bank not having adequate contact with its supervisor from the host country may find problems adapting to the regulatory requirements in the foreign countries. As a result, banks being unaware could go against the protection laws of a customer, including data collection and privacy/confidentiality of customers' account information and this may subject the banks to huge losses through lawsuits or crimes that are not prosecuted because of jurisdictional disputes (Mols, 2008). Furthermore, money laundering has increased over the years because of the growth and usage of online banking services. Many countries have been forced to put in place proper measures for the identification of customers when an account is being opened and for future transactions in the customer's account.

Reputational risk which arises from negative public opinion can significantly affect operational smooth implementation of e-banking and customer acceptance of e-banking products and services. A bank's reputation can be damaged by e-banking services that are poorly executed or otherwise alienate customers and the public. Therefore, it is important that customers understand what they can reasonably expect from a product or service and what risks and benefits they incur when using them. Customer education along with formal incident response and management procedures can help lessen a bank's reputational risk. Banks are required to communicate in a transparent and clear way and meet their obligations in this regard. The management has to agree on the communication strategy and content so that customers don't get the notion that, use of E-banking channel may be debiting their accounts with hidden charges, given that customers nowadays monitor very keenly any transactions made in to their accounts.

Bank's reputation can be damaged due to violation of security and disruptions to the availability of the system. Reputational risk is more depended on the reliance on electronic delivery channels which in turn increases its potentials. For instance, a bank that offers electronic services may experience many problems that might lead to the loss of confidence for the banks products and services in customers who use electronic

delivery channels, and these problems can potentially affect other providers of electronic banking services. Security risks can be amplified and may result in a loss of confidence in electronic delivery channels. According to Daniel (2009), the level of security or risk associated with adoption of e-banking is a major factor affecting the acceptance and adoption the e-banking products. Even in countries where electronic banking has long been established, one of the most important factors slowing progress of this new innovation is the customers concern for security of financial transactions over the Internet and electronic means. Therefore, security is one of the very important factors in determining the decision of customers to use e-banking platform. Similarly, security concerns are keeping both consumers away from e-banking. Along the same lines, The Walls Report (2007) argues that, unless security is improved, most clients would not be willing to conduct their transactions over electronic means.

2.4.3 Qualification of Information Technology Personnel to Handle E-banking

Shah and Siddiqui (2006) found in their study on e-banking at the Woolwich bank in UK, that the availability of highly skilled human resources is critical in implementing e-banking products and services. The greatest challenge facing developing countries is the development of the qualified human capital needed to operate a modern economy and society effectively and especially in firms like the banks which need more qualified technical experts of the Information Technology because of sensitivity of transactions involved. Exploiting the human potential is a major means to meeting the developmental needs of organizations and countries in general and which also enhance competitiveness in the global economy at large (Milek *et al.*, 2011). In the study by Shah and Siddiqui (2006), they identified that in the implementation of internet and electronic device projects, the shortage of readily skilled human resources can be a severe challenge for good implementation process of e- banking services. Alawneh and Hattab (2009) found out that the lack of well trained and up to date IT personnel may affect value creation in the banking sector since value creation comes in when the input factors which among them the human capital and the infrastructure are well skilled and up to date respectively. Earl (2002) furthermore identified that while managers typically have a high-level understanding of their business and operational processes, they often lack employees with

the experience and skills necessary to adopt software technologies and educate customers and it's thus the duty of the managers to get the right qualified people for these jobs.

2.4.4 General ICT Policy in the Country that Favour Proper Implementation of E-Banking

The prevailing ICT policy in the country in question must be favourable for smooth implementation of innovative e-banking products and services. Countries must have priorities which determine the national development agenda for e-banking services. The importance of ICT as a development tool has often been neglected (Milek *et al.*, 2011). For example, Sumanjeet, 2009 cited in order to address this issue, Ghana instituted The Ghana ICT for Accelerated Development (ICT4AD) policy in June 2003. This policy aimed at transforming the country into an information-rich knowledge-based society through the development, deployment and exploitation of ICTs within the economy. However, the policy faces a number of key challenges including the lack of finance, limited human resource capacity characterized by low professional, technical and managerial manpower base. Likewise developing countries like Kenya should also make a clear move to develop better and favourable polices for the adoption of ICT in many firms locally. It is true that ICT usage in most developing countries lags behind the developed world and they have to pull up to be at per. For instance, in Africa, internet user penetration has been less than desirable despite the people having knowledge on the same. The International Telecommunication Union (ITU) projected that by the end of 2010, internet user penetration in Africa was to reach 9.6%. This is relatively very low when compared with the world average of 30% and the developing country average of 21%. This means that generally, in Africa, very few people are familiar with the use of the internet. According to the ITU (2010), while in developed countries, 71% have a computer and 65.6% have internet access, in their developing country counterparts, only 22.5% have a computer and 15.8% have internet access. In addition, broadband subscriptions are no better in developing countries; they are at a mere 4.4% as compared with 24.6% in developed countries. Specifically, in Ghana, as at June 2010, internet users represented a partly 5.3% of the estimated population of 24.3 million (ITU, 2010).

2.5 Research Gap

E-banking is about using the infrastructure of the digital age to create opportunities, both local and global. E-banking enables the dramatic lowering of transaction costs, and the creation of new types of banking opportunities that address the barriers of time and distance (Dube *et al.,* 2009). Banking opportunities are local, global and immediate in e-banking. Banks must therefore strive to provide local and global banking services using the infrastructure of the global village. From the bank's perspective, recent e-banking channels are seldom applied only to improve client service but also to divert traffic from the branches and the risks are perceived to be less, especially since the chances of assault from bank staff are reduced. Customers can transact at the comfort and safety of their homes or offices (Botha, *et al.,* 2004).

However, the unavailability of internet services can frustrate the management of the bank and this can be a major blow to the operations and I.T departments. The provision of these e-banking services and products can be challenged if the customers will always be told that the internet is down or as the banks call it, the system is offline. The challenge of unreliable internet service providers may cause customers to have a negative image toward the bank which could lead to the bank facing operational and reputational risk.

Many researchers in this area of e-banking both internationally and locally have concentrated their research more on the security and cost factors as major challenges of e-banking adoption, but this research focuses on institutional factors that banks face as they innovate and implement the e-banking products and services in the Kenyan context and more specifically on National bank of Kenya given it's a pioneer in the adoption and implementation of e- banking.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methods that were used in collecting and analyzing the data for the study to reach its pre set research objectives. The chapter was outlined into research design, research instrument, data collection procedure and data analysis.

3.2 Research Design

The study employed descriptive research design in particular to describe the operational challenges in the implementation of e-banking at the National Bank of Kenya. Descriptive research designs can be used in both quantitative and qualitative research projects (Neumann, 2004).Descriptive research involves gathering data that describe events and then organizes, tabulates, depicts, and describes the data collected (Grace, 2005). The study used descriptive research because the design determines and reports the way things are and also attempts to describe such things as possible behaviour, attitudes and values and characterizes (Mugenda and Mugenda, 2003).

3.3 Data Collection

The study used primary data collected through a well designed self administered questionnaire with closed and open ended structured questions. The questionnaire consisted of two main sections which will included; Section A, demographic information of respondents while the other sections B & C dealt with benefits of e-banking adoption and the four research objectives in relations to the operational challenges facing e-banking implementation at the National Bank of Kenya.

According to Axinn and Pearce (2006), this method of data collection provides a high degree of data standardization and adoption of generalized information among the population. It is advantageous since respondents fill them at their own time, facilitates collection of large amount of data, easier to administer and takes less time.

3.4 Data Analysis

According to Baumgartner & Arboh (1997) the selection of most appropriate statistical analysis depends on the type of data collected and the overall design of the research proposal. The study typically had choices as to what type of data best answered the research questions. The author further adds that the statistical procedure to be used depends on whether the data to be collected is quantitative or qualitative. The data from the completed questionnaires was coded and entered into the computer using the Statistical Packages for Social Sciences (SPSS) for analysis. The SPSS computer program produced frequency tables, graphs, and the necessary measures of variances for interpretation. Descriptive statistics enables the researcher to describe the aggregation of raw data in numerical terms (Neumann 2006). Descriptive statistics by use of standard deviation, mean was used to analyze data.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents data analysis, findings and discussions. Information in this chapter is divided into two sections. The first section gives demographic information of the respondents which helps to depict the characteristics of respondents. The second section deals with analysis of data on each of the specific research objectives based on descriptive statistics.

4.2 Response Rate

The sample of the study comprised of 98 respondents. The research instruments were administered to the respondents who later on returned all duly filled instruments. Out of 98 questionnaires that were administered, 79 questionnaires were duly filled and returned giving a response rate of 80 %.

According to Mugenda and Mugenda (2003) a 50% response rate is adequate, 60% good and above 70% rated very well. This also concurs with Kothari (2004) assertion that a response rate of 50% is adequate, while a response rate greater than 70% is very good. This implies that based on this assertions; the response rate in this case of 80% is very good. This high response rate may be attributed to the fact that the researcher had access to the respondents being an employee of National Bank of Kenya.

4.3 Demographic Information

In order to achieve the main purpose of this study, the researcher found it useful to find out the demographic information of the respondents. The demographic information of the respondents included gender, age, professional qualification and work experience.

The study found it paramount to determine the respondents' gender in order to ascertain whether there was gender parity in the positions indicated by the respondents. The findings of the study showed that majority of the respondents were male which represented 57.89% while 41.13% were female.

Acker (2006) observed that gender equality was a very important as a trait as it can be used to improve performance of all the staff involved. He argued that it fosters teamwork and also creates a sense of unity and an aspect of working together for a common goal with every individual effort whether male or female being important to the attainment of the overall objectives. A gender sensitive firm provides a conducive working environment where a staff/manager is supposed to interact with other colleagues of the opposite gender in pursuit of excellence and achievement of set targets.

The respondents were required to indicate their age where the study findings indicated that majority (39%) indicated that their age bracket was between 31 and 40 years. Analysis of findings also indicated that 28% of the respondents were between 21 and 30 years of age. The findings further indicated that 22% were between 41-50 years of age, and greater than 50 years were while 11%.The finding therefore implies that the respondents were old enough to provide valuable responses that pertain to the study.

The study sought to find out the respondents level of education in order to ascertain whether academic qualification influenced e- banking implementation. From the findings, majority (38%) were first University degree holders while 31% of the respondents indicated that they had attained a tertiary education level in their respective areas of specialization. The study further indicated that 26% of the respondents were postgraduate holders while minority (5%) had attained secondary.

The findings of the study concurs with Ngulube and Tafor (2006) who observed that each state corporation has its own management organization structure with a matching head count budget to support the business and the persons assigned various duties should possess requisite professional and academic qualifications. From the findings, majority of the respondents had attained academic qualification commensurate with their job designation and it can therefore be inferred that academic qualification influences e-banking operations.

The study found it necessary to find out the respondents years in service in the current department so as to find out the relationship between work experience and effectiveness

of integrated management information systems in e-banking project implementation. Based on the findings, majority (49%) of the respondents had over 10 years of Work experience and between 6-10 years were 37%. It was also revealed that 14% of the respondents had an experience not `exceeding 5 years. From the findings therefore majority of the respondents were experienced and hence can be highly informative on issues that relate to effectiveness of e-banking implementation.

4.4 E-banking and organizational objectives

The respondents were asked to indicate how effective is e-banking to the achievement of the banks' objectives in the financial market. The responses are summarized on a scale of 1-5 where 1 represented Very Small extent, 2-Small extent, 3-Moderate extent, 4-Great extent and 5-Very great extent.

Table 4.1: Realization of organizational objectives through the E-banking

Statement	**Mean**	**Std Deviation**
E-banking leads higher level of customers' satisfaction and retention	4.52	1.098
Improved competitiveness and quality of products and services.	4.52	1.098
Revenue growth	4.52	1.098
Increased customer confidence in their account records and staff confidence at work improved	4.52	1.098
Better branding and better responsiveness to the market	4.01	0.954
Wider coverage in terms of branch network	4.01	0.954
Lower transaction costs as e-banking requires less paper work, less staffs and physical branches	4.01	0.954
Customer convenience	4.01	0.954
Protection of an organizations strategic position	4.01	0.954
Improved bank performance	4.00	1.142
Expanded product range	4.00	1.142
Reduced queues in the banking halls	4.00	1.142

A summary of the findings is shown in the table 4.1 where majority of the respondents agree to a Great Extent that through the adoption of e-banking the bank is in a good position to achieve its organizational objectives which are mainly to offer affordable, quality and most convenient e-banking products and services to its customers and in return attain its profitability targets rates, reduce cost of operations, and increase its market share in the current competitive banking environment.

4.5 Operational challenges in the implementation of e-banking

The study was carried to find out the operational challenges faced by the National Bank of Kenya in implementation of e-banking projects. A Scale of 1-5 was used where 1 represented Very Small extent, 2-Small extent, 3-Moderate extent; 4-Great extent and 5-Very great extent. The research findings on the research questions are discussed below according to the details of each question, the results found and a comparison of these results to the information on the literature.

Table 4.2 Top Management Commitment and E-Banking implementation

4.5.1 Top Management Commitment	**Mean**	**Std Deviation**
Top management of the bank are committed e-banking both in word and in conduct	3.05	0.713
Top management comes up with the idea of introducing e-banking in the bank	3.52	0.729
The top managers allocate sufficient resources and capabilities to the development of electronic facilities	3.10	0.857
Management of banks employ a balanced approach to e-banking, incorporating technical aspects as well as working with the human factor associated with the venture in order to carry it out smoothly	3.10	0.857
The management of the bank exhibits norms favoring organizational change	3.10	0.857
Top management understand issues surrounding e-banking and mobilize organizational stakeholders	3.10	0.857

The aim of the research was to find out the extent to which the top management contributes to proper implementation of e- banking at National Bank of Kenya in both word and conduct. According to the results obtained as indicated in Table 4.2 the respondents indicated a Moderate Extent of commitment by top management in the adoption and implementation of e-banking services at the bank. Respondents indicated that the management still needed to consider allocating enough resources for purchase of up to date infrastructure that facilitates competitive service provision to the banks customers. Less attention is given to the banks employee experts in IT related functions who have good ideas of the bank's operations and also less consultation from the junior or mid level managers and supervisors was the response given. This means that the researcher's findings are in agreement to other researchers as per the literature collected.

4.5.2 Operational Risks involved in E-Banking implementation

The research was conducted to find out the extent to which operational risk and reputational are challenges to proper implementation of e- banking at National Bank of Kenya. According to the results obtained as indicated in Table 4.3, the respondents indicated a Small to Great Extent of operational and reputational risk as they may hinder proper implementation of e-banking services at the bank.

Operational risk is a great challenge to the bank because it is unfortunate that majority of the staff are unaware of the proper procedure on quality and standard service provision for e-banking products and services. Majority of the respondents indicated a status of Great extent on staff knowledge failure on such issues as money laundering which is a major challenge facing the banks generally in the country. The issue of inadequate bandwidth and persistent system failure was also indicated as a major issue to a great extent that the bank needed to address because customers accounts had mostly been affected especially whenever the system went on and off and most of the customer complains on these issues has not been address on good time making the customers express negative attitude on the banks e-banking service provision. The results conquer with the literature collected pertaining this operational challenge.

Table 4.3: Operational Risks involved in E-Banking implementation

4.5.2 Operational Risk	**Mean**	**Std Deviation**
E-banking increases banks' dependence on information technology, thereby increasing the technical complexity of many operational and security issues and furthering a trend towards more partnerships, alliances	4.59	1.099
Lack of sufficient legal regulations that strengthening legal framework related to e-banking	4.52	1.098
Lack of transparency in policy making	4.52	1.098
The bank reputational risk can be damaged by e-banking services that are poorly executed or otherwise alienate customers and the public	4.52	1.098
Lack of coordination among departments	4.07	0.960
Money laundering facilitation due to the anonymity of e-banking	4.01	0.954
Operational risk that does not guarantee data integrity and confidentiality	4.01	0.954
High cost of equipment and network software	4.00	0.925
Inadequate bandwidth that makes services not always available for the customers	4.01	0.934
The bank has a better understanding of customer's needs and wants and then translates them into the capability to give customers what they really need and want	3.45	0.575
The bank communicates e-banking services in a transparent and clear way and meet their obligations	2.04	0.275

4.5.3 Qualification of ICT personnel to handle E-Banking projects

The operational challenge on qualification of ICT personnel to handle e-banking project implementation was aimed to study the comparison on staff knowledge and understating of e-banking projects and how they contribute to successful implementation of the same. Most of the respondents indicated that the bank has employees who have skills to handle e-banking implementations processes only that they are limited by not being incorporated in projects/decision making that would see the improvement of the banks service provision. However the respondents indicated that staffs needed to advance their knowledge and especially on the Core processing system that is currently being used by the bank. The findings on this research conquer with the literature from other authors and it is clear that this is a major challenge that need much attention to enable the banks achieve their objectives.

Table 4.4: Qualification of ICT personnel to handle E-Banking projects

4.5.3 Qualification of information technology personnel to handle e-banking projects	**Mean**	**Std Deviation**
The bank lack employees with the experience and skills necessary to adopt software technologies and educate customers	4.52	1.098
The bank has highly skilled human resources critical in deployment of e-banking projects	4.01	0.954
The bank lack trained and up to date IT personnel and this affect value creation in the bank	4.01	0.954
The information technology (IT) departmental heads and employees are the instigators of e-banking in the bank	3.52	0.078
The bank has a shortage of readily skilled human resources and this affect the implementation of internet and electronic device projects,	3.00	0.142
Increased pace in Technology advancement by the ICT personnel	2.81	0.234

4.5.4 ICT Policy in the Country that Favour Proper Implementation of E-Banking

This operational challenge was aimed at giving an insight on the relationship of the ICT policy making to the E-banking implementation by banks. Given the insecurity issues in the county the respondents felt that there are no standard electronic banking infrastructures that should facilitate provision of quality and convenient and standard services to the customers, thus the response of Great Extent on unfavourable ICT Policies that are expected motivate to and create smooth running on banks e-banking projects implementation as indicated in Table 4.5 Others stated that there are no enough consultancy firms that are licensed to help in professional advice on the proper infrastructure that the banks generally in the country need to have in order to meet international competition standards in the financial market .The respondents also stated that the ICT Policy had not effectively communicated the need to have CCTV cameras in All ATMs and banking hall as in the case of National Bank, where some respondents indicated that some of them banks ATMs and Banking Halls had no CCTV cameras, thus raising the issues of bank frauds.

Table 4.5: ICT Policy in the Country that Favour Proper Implementation of E-Banking

4.5.4 General ICT Policy in the Country that Favour Proper Implementation of E-Banking	**Mean**	**Std Deviation**
The prevailing Information Technology policy in the country is not favourable towards the adoption of innovative e-banking services	4.52	1.098
The bank doesn't have the right electronic banking infrastructure and developments are in place to meet the demands of the users.	4.01	0.954
The ICT in the country faces a number of key challenges including the lack of finance, limited human resource capacity characterized by low professional, technical and managerial manpower base	4.00	0.925

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The study was conducted with the aim of finding out whether the discussed operational challenges in the implementation of e-banking products and services are faced by the National Bank of Kenya. According to the findings of the study, it is clear that these operational challenges of little commitment by the top management in the bank, level of qualification of the ICT personnel to handle e-banking projects, the operational risk and reputational risks and the poor ICT policies in the country that affect the operations of the banks in the implementation of e-banking services are indeed major challenge to the implementation of e-banking projects by the local banks.

It is therefore the responsibility of the operations department and the top management in bank to ensure that these challenges are resolved for the overall good performance of the bank. Banks in general should do Market Intelligence in order to have up to date information on new ICT concepts, new and efficient Core Banking systems that will aid in proper and convenient service delivery to the customers. In an effort to add value to the service delivery, the bank should ensure that its staff understand all the procedures of the bank and incorporate the views of staff in all departments to ensure all innovative concepts are considered for better performance of the bank.

5.2 Conclusions

The study has demonstrated that operational based factors adversely affect the service delivery to the end user who is the banks customer. This study has emphasized on the operational based factors that the banking institutions face, because majority of research in Kenya has been on the end user attitude, behavior and appreciation of the e-banking products and services without considering the key challenges that cause the negative attitude and adaptability of the e-banking services by the customers.

The managers of the bank benefit from this research because it shows the major operational challenges that they must focus on in order to deliver standard and

exceptional services to the customers. They should ensure that security issues are addressed way forward before customers have access to use the e-banking services.

The bank must have enough ICT professionals, well trained, who will manage the e-banking projects in order to ensure its smooth implementation and running on a continuous basis as discussed by Shah and Siddiqui, (2006).The Managers need to ensure that they come up with easy and more user friendly e-banking products and services to improve customers confidence is the banks financial service delivery according to the changing consumer needs.

5.3 Recommendations

According to research results, top management commitment, operational and reputational risks, qualification of the ICT personnel to handle e-banking and ICT policy that support the implementation of e-banking services are considered to be major barriers in the proper implementation of e-banking at the National Bank of Kenya.

In order to improve on the implementation of the e-banking at the Bank, the Top Management of the bank needs to incorporate good working relations with junior staff and allocate enough resources of human work force and finances needed to buy more standard equipment, and new application servers and have in place proper operational procedures that give clear guidance on the current and future expected e-banking service provision to the customers. Respondents also indicated that top management needed to initiate and approve the e-banking projects, provide resources for its deployment and ensure that proper systems are put in place in order to serve customers well.

The banks should also put in to place proper operational processes that are up to standards in an effort to provide satisfactorily service to customers. When the customers get e- banking products and services according to their needs, they tend to express a positive attitude towards the banks image and this on the other hand reduces chances of negative impression on the bank in the competitive financial market. In the operationalization of the banks e- banking systems, the bank should put in place proper

measures to deal with internet hackers and computers viruses which are a major threat on the operations of the banks businesses. They should have up to date anti-viruses and ensure that people have no access to certain programs that might create insecurity issues, like the ability of a staff member to access customer's accounts and make withdrawal transactions and delete that particular entry from the system.

The management of the bank should ensure that the ICT personnel and the management have the proper training. They should also ensure that the right job is given to the right person who understands and are motivated to add value in the bank's financial business. Again, hold seminars and training courses in the field of electronic banking. However, in the managements effort to adopt new Core banking processor, the respondents pointed out the quality of the vendor personnel (Core banking service consultants) is more important and that they encourage the banks' personnel to learn from them to make the system better given that many of the e-banking structures are vendor-dependent.

The general ICT policy in the country that favour proper e-banking implementation should be improved as a move to create a good working environment for the bank in provision its e-banking services even to the most rural areas in the country. Lack of an effective ICT policy in the country could impact negatively on the development of e-banking because it limits availability, accessibility, and use of information technology based products in the country given the security issues facing the country. There should be a clear directive to have all the bank's ATMs and Banking Halls fitted with CCTV cameras as a security measure against fraud issues.

5.4 Limitations

Limitation of the study is that it was based on one bank (The National Bank of Kenya), which may not have shown fully the operational challenges in the financial institutions on e-banking projects implementation. Therefore, future studies can be conducted for several banks in the country and involve more respondents to compare how banks handle the operational challenges in the implementation of e-banking systems. This will help the banks to borrow ideas from each other and strengthen the use of e-banking services by

the customers which may result in more revenue collection by the government leading to economy development.

5.5 Suggestions

Operational challenges are a major issue in the implementation of e-banking projects by financial institutions and therefore there is a need to do further research in this area to find out other operational factors that affect e- banking implementation process and also a study on product design for e-banking products can be conducted to investigate on the initial and critical stages of coming up with e-banking products and services that are easy to adopt and implement and are more user friendly.

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APPENDIX I

RESEARCH QUESTIONNAIRE

PART A: Demographic and Respondents Profile

1. Gender:

a) Male ( )

b) Female ( )

2. What is your age bracket? (Tick as applicable).

a) 21 – 30 years ( )

b) 31 – 40 years ( )

c) 41- 50 years ( )

d) Over 50 years ( )

3. What is your highest level of education qualification?

a) Post graduate level ( )

b) University ( )

c) Tertiary College ( )

d) Secondary ( )

4. Length of continuous service with the bank?

a) Less than two years ( )

b) 2-5 years ( )

c) 6- 10 years ( )

d) Over 10 years ( )

Part B: Realization of organizational objectives through the adoption of E-banking

5. How effective is e-banking to the achievement of the banks' objectives?

a) Very effective ( )

b) Effective ( )

c) Moderately effective ( )

d) Not effective ( )

e) Not effective at all ( )

6. The statements below describe the benefits that accrue from the adoption of e-banking and thus leading to achievement of organizational objectives. Please indicate

the extent to which the bank has realized the following? Use 1-Very Small extent, 2-Small extent, 3-Moderate extent, 4-Great extent and 5-Very great extent.

Statement	**1**	**2**	**3**	**4**	**5**
Lower transaction costs as e-banking requires less paper work, less staffs and physical branches					
E-banking leads to higher level of customers' satisfaction and retention					
E-banking reduces loan processing time as borrowers loan application can be viewed by loan processing and loan approval authority simultaneously					
Better branding and better responsiveness to the market competition					
Improved competitiveness and quality of products and services					
Improved bank performance					
Wider coverage in terms of branch network					
Revenue growth					
Expanded product range					
Customer convenience					
Protection of an organizations strategic position					
Increased customer confidence in their account records and staff confidence at work improved					
Reduced queues in the banking halls					

Part C: Operational challenges in the implementation of E-banking

7. Please tick appropriately the effect of Top Management Commitment to e-banking implementation in the bank? Use 1- Very Small extent, 2-Small extent, 3-Moderate extent, 4-Great extent and 5-Very great extent.

Top Management Commitment	**1**	**2**	**3**	**4**	**5**
Top management of the bank are committed e-banking both in word and in conduct					
Top management comes up with the idea of introducing e-banking in the bank					
The top managers allocate sufficient resources and capabilities to the development of electronic facilities					
Management of banks employ a balanced approach to e-banking, incorporating technical aspects as well as working with the human factor associated with the venture in order to carry it out smoothly					
The management of the bank exhibits norms favoring organizational change					
Top management understand issues surrounding e-banking and mobilize organizational stakeholders					

8. To what extent has the following operational and reputational risk challenges affected e-banking at National Bank of Kenya? Use Very Small extent, 2-Small extent, 3-Moderate extent, 4-Great extent and 5-Very great extent.

Operational risk	**1**	**2**	**3**	**4**	**5**
Operational risk that does not guarantee data integrity and confidentiality					
Lack of sufficient legal regulations that strengthening legal framework related to e-banking					
Money laundering facilitation due to the anonymity of e-banking					
E-banking increases banks' dependence on information technology, thereby increasing the technical complexity of many operational and security issues and furthering a trend towards more partnerships,					

alliances					
The bank reputational risk can be damaged by e-banking services that are poorly executed or otherwise alienate customers and the public					
The bank communicates e-banking services in a transparent and clear way and meet their obligations					
The bank has a better understanding of customer's needs and wants and then translates them into the capability to give customers what they really need and want					
High cost of equipment and network software					
Lack of transparency in policy making					
Lack of coordination among departments					
Inadequate bandwidth that makes services not always available for the customers					
Customers have continuously impressed negative attitude toward banking services					
Customers have visited branches to state their complains					
How well the customer has complains on e-banking issues addressed.					

What strategies would you recommend to deal with the operational and reputational risk...?

……

9 To what extent do the following factors on the qualification of technology personnel in the bank affected e-banking? Use 1- Very Small extent, 2-Small extent, 3-Moderate extent, 4-Great extent and 5-Very great extent.

Qualification of information technology personnel	**1**	**2**	**3**	**4**	**5**
The bank has highly skilled human resources critical in deployment of e-banking projects					
The information technology (IT) departmental heads and employees are the instigators of e-banking in the bank					

The bank has a shortage of readily skilled human resources and this affect the implementation of internet and electronic device projects.					
The bank lack trained and up to date IT personnel and this affect value creation in the bank					
The bank lack employees with the experience and skills necessary to adopt software technologies and educate customers					
Increased pace in Technology advancement					
To what extent do the ICT personnel understand the bank's Core processing system-BFUB					

Others: kindly state……..……..

10.To what extent does the following statements on the general ICT policy in the country that Favour Proper Implementation of E-Baking affected the e-banking in the bank? Use 1 Very Small extent -, 2-Small extent, 3-Moderate extent, 4-Great extent and 5-Very great extent.

General ICT Policy in the Country that Favour Proper Implementation of E-Baking	**1**	**2**	**3**	**4**	**5**
The bank doesn't have the right electronic banking infrastructure and developments are in place to meet the demands of the users.					
The prevailing Information Technology policy in the country is not favourable towards the adoption of innovative e-banking services					
The ICT in the country faces a number of key challenges including the lack of finance, limited human resource capacity characterized by low professional, technical and managerial manpower base					

Others: kindly state……

11. Any other institutional factors that the bank may be facing in the implementation of e-banking? Kindly state and explain briefly…….……